

AIR FORCE QUALIFICATION TRAINING PACKAGE (AFQTP)



for
ENVIRONMENTAL
(3E4X3)

MODULE 20

AFS SPECIFIC CONTINGENCY RESPONSIBILITIES

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AFS SPECIFIC CONTINGENCY RESPONSIBILITIES

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Career Field Education and Training Plan (CFETP) references from 1 Apr 97 version.

OPR: HQ AFCESA/CEOT

Certified by: HQ AFCESA/CEO
(Colonel Lance C. Brendel)

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AIR FORCE QUALIFICATION TRAINING PACKAGES
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ENVIRONMENTAL
(3E4X3)

INTRODUCTION

Before starting this AFQTP, refer to and read the “Trainee/Trainer Guide” located on the AFCESA Web site <http://www.afcesa.af.mil/>

AFQTPs are mandatory and must be completed to fulfill task knowledge requirements on core and diamond tasks for upgrade training. *It is important for the trainer and trainee to understand* that an AFQTP does not replace hands-on training, nor will completion of an AFQTP meet the requirement for core task certification. AFQTPs will be used in conjunction with applicable technical references and hands-on training.

AFQTPs and Certification and Testing (CerTest) must be used as minimum upgrade requirements for Diamond tasks.

MANDATORY minimum upgrade requirements:

Core task:

AFQTP completion
Hands-on certification

Diamond task:

AFQTP completion
CerTest completion (80% minimum to pass)

Note: *Trainees will receive hands-on certification training for Diamond Tasks when equipment becomes available either at home station or at a TDY location.*

Put this package to use. Subject matter experts under the direction and guidance of HQ AFCESA/CEOT revised this AFQTP. If you have any recommendations for improving this document, please contact the Career Field Manager at the address below.

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ENVIRONMENTAL



PREPARE ASSETS

MODULE 20

AFQTP UNIT 1

SELECT PESTICIDES (20.1.2.)

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

SELECT PESTICIDES

Task Training Guide

STS Reference Number/Title:	20.1.2., Select Pesticides
Training References:	<ul style="list-style-type: none"> • AFI 32-1053, Pest Management Program. • AFI 32-7002, Environmental Information Management System. • AFI 32-7006, Environmental Program In Foreign Countries. • AFH 10-222, Volume 4, Environmental Guide for Contingency Operations. • AFPMB TIM 24, Armed Forces Pest Management Board, Contingency Pest Management Pocket Guide, Fifth Edition, 2 Sep 98.
Prerequisites:	<ul style="list-style-type: none"> • Possess as a minimum a, 3E433 AFSC.
Equipment/Tools Required:	<ul style="list-style-type: none"> • Disease Vector Ecology Profiles (DVEPS). • Technical Information Manual 24 (TIM 24).
Learning Objective:	<ul style="list-style-type: none"> • The trainee should learn how to obtain the Disease Vector Ecology Profiles (DVEPS) for a particular area. • The trainee should be able to select pesticides for a particular deployment or area by using the Disease Vector Ecology Profiles (DVEPS).
Samples of Behavior:	<ul style="list-style-type: none"> • Trainee should be able to obtain specific Disease Vector Ecology Profiles (DVEPS) according to the particular deployment. • Trainee should be able to select pesticides pertinent to the deployment scenario.
Notes:	
<ul style="list-style-type: none"> • To successfully complete this element follow the steps outlined in the in this section exactly--no exceptions. • To successfully complete this element the trainee must obtain Disease Vector Ecology Profiles (DVEPS) for a particular country and select the correct pesticides for the deployment. 	

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SELECT PESTICIDES

Background: The purpose of Contingency Pest Management is to provide pest control service in field situations worldwide, during contingency operations or military exercises. To properly conduct this operation is it imperative to understand the pest problems that will be encountered while deployed. Concise summaries of vector-borne and other militarily significant diseases that occur in specific countries can be found in the Disease Vector Ecology Profiles (DVEP), (Figure 1). These profiles focus on vector-borne diseases (diseases caused by insects) and other military significant diseases. They also emphasize disease epidemics, vector locations, behavior, and pesticide resistance. A selected bibliography of pertinent disease and disease vector literature is also included. These Disease Vector Ecology Profiles (DVEP), the Technical Information Memorandum 24 (TIM 24), Figure 2, other publications, available keys, and related environmental or biological data can be obtained by contacting The Defense Pest Management Analysis Information Center (DPMAIC) in Washington DC, DSN 291-5365/5366. Disease Vector Ecology Profiles (DVEP) serve as a summary of relevant insects and arthropod-borne disease information and not as a scientific document. The information obtained from the summaries help the pest manager select the proper pesticide for that particular deployment

To perform the task, follow these steps:

The following steps are to be used for selecting pesticides for Foreign and US in contingency deployments.

Step 1: Identify the Pest

- Contact Command Entomologist at forward location
- Contact pest management shop NCOIC at forward locations (if possible)
- Order DVEP from the Armed Forces Pest Management Board
 - Check web page

Step 2: Determine Control Method

- Determine mission requirement
 - Permanent vs. temporary control
- Determine control level requirements
 - Heavy infestation vs. prevention

Step 3: Determine Pesticide Requirements

- Identify Pest
- Work with Command Entomologist at the forward location
- Work with the pest management shop NCOIC at forward location (if possible)

Step 4: Order Pesticides

- Work with Command Entomologist at the forward location
- Verify the insect and anthropoid disease vectors for that specific area or deployment.

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- Check the Environmental and/or pesticide laws of the deployed country or area. This will help determine what pesticide to procure.
- Use Technical Information Memorandum 24 (TIM 24) for selecting pesticides. It lists the pest and the pesticides in an easy reference, Figure 2.
- Base your initial requirements for 7 to 10 days

NOTE:

Make sure the Disease Vector Ecology Profiles (DVEP) is ordered three to five days before the deployment is to leave. It will take that long to receive it. If time is a factor, Public Health may have the DVEP available.

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Step 5: Choose the pesticides that will be needed for this deployment.

- Based on the data in the Disease Vector Ecology Profiles (DVEP), if possible take a pesticide that will target more than one pest.
- Keep the inventory to a minimum.
- Make sure the pesticide fits the target pest.
- Make sure the pesticide formulation is one that can be readily carried on the aircraft.
- It is more beneficial to take a dust or a granular formulation if possible to avoid liquids spilling or freezing.

Step 6: Personal Protective Equipment (PPE).

- Match the pesticides used or transported with the Personal Protective Equipment (PPE) required.

Step 7: Ensure pesticides remain in original container with label intact.

- Keep incompatible pesticides separate.

NOTE:

Keep rodenticides away from insecticides and herbicides. This will keep the odor of the other pesticides from infiltrating the rodent bait.

Step 8: Material Safety Data Sheet (MSDS).

- Each pesticide shipped is required to have a MSDS.

SAFETY:

DO NOT PACK INCOMPATIBLE MATERIALS TOGETHER.

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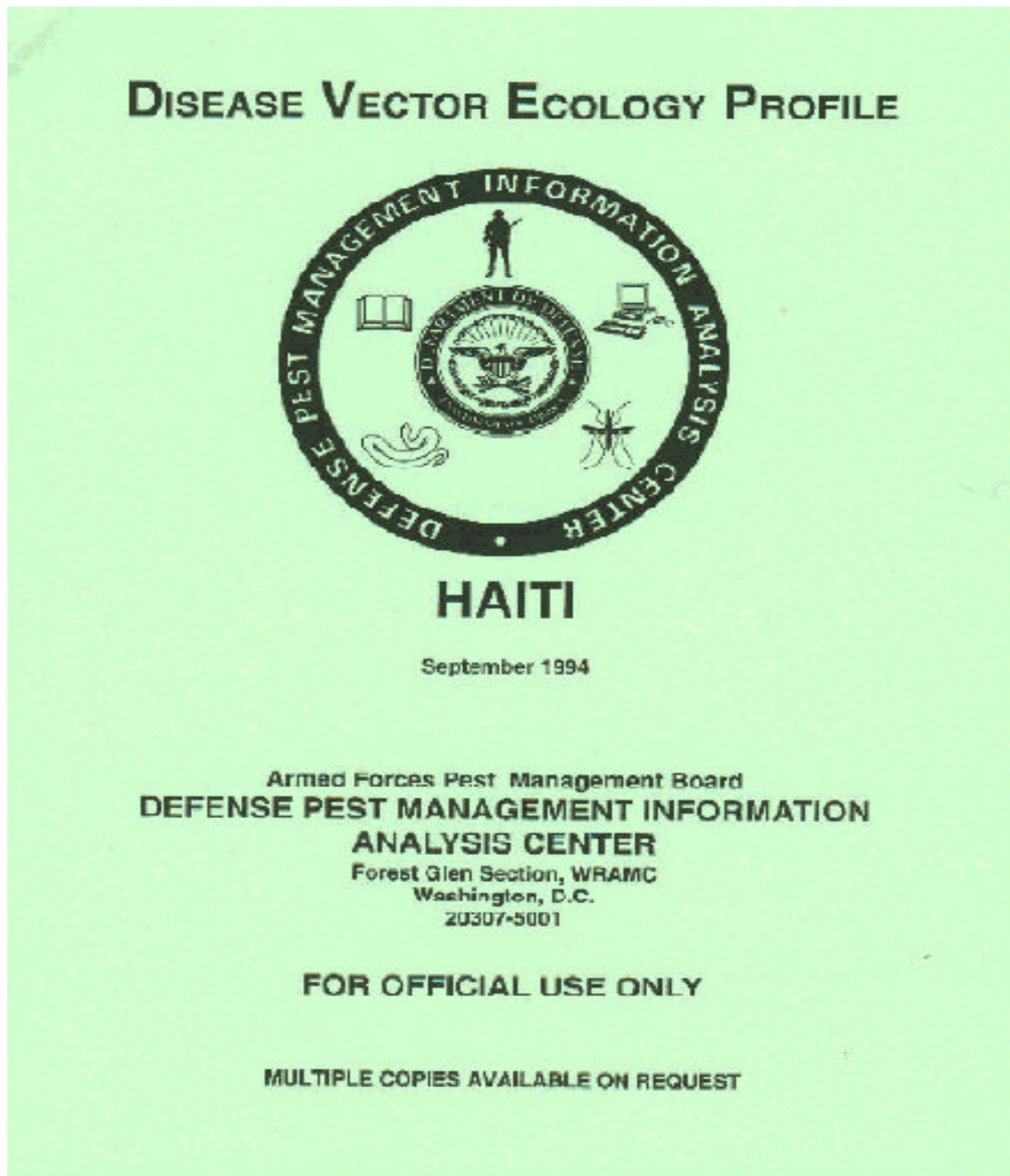


Figure 1, Disease Vector Ecology Profiles (DVEPS) of Haiti.

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Figure 2, TIM 24

(NOTE: MSGT RON BROWN PLEASE REPLACE THIS WITH THE CURRENT TIM 24 COVER)

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Review Questions for Select Pesticides

Question	Answer
1. Contingency Pest Management provides _____.	<ul style="list-style-type: none"> a. Concise summaries of vector-borne diseases b. Pest control services c. Disease vector profile d. None of the above
2. When should you obtain the Disease Vector Ecology Profiles?	<ul style="list-style-type: none"> a. During the initial beddown b. Before the “after action” report c. Before deploying d. During the sustainment phase
3. Who should you contact to find out about pests at the forward location?	<ul style="list-style-type: none"> a. Command Entomologist only b. Command Entomologist and Pest Shop NCOIC c. Armed Forces Pest Management Board d. Base Civil Engineer
4. What is the first step to determining your pesticide requirements?	<ul style="list-style-type: none"> a. Contact the Command Entomologist b. Contact the Pest Shop NCIOC c. Identify the pest d. Refer to TIM 24
5. What time frame should you base your initial pesticide requirements?	<ul style="list-style-type: none"> a. 1 week b. 7 – 10 days c. 2 weeks d. 1 month
6. Which pesticide formulations are safest to transport?	<ul style="list-style-type: none"> a. Powders and granular b. Powders and emulsions c. Emulsions and aerosols d. Liquids and aerosols

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SELECT PESTICIDES

Performance Checklist		
Step	Yes	No
1. Did the trainee gather information about the deployment?		
2. Did the trainee order the particular DVEP needed for the deployment?		
3. Did the trainee select the pest that is prevalent to that area?		
4. Did the trainee select the pesticides to control pests selected?		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

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ENVIRONMENTAL



PREPARE ASSETS

MODULE 20

AFQTP UNIT 1

ULTRA LOW VOLUME (ULV) FOG GENERATOR (20.1.3.1.)

BACK PACK (20.1.3.2.)

FAN ULV (20.1.3.3.)

COMPRESSED AIR SPRAYER (20.1.3.4.)

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ULTRA LOW VOLUME (ULV) FOG GENERATOR

BACK PACK

FAN ULV

COMPRESSED AIR SPRAYER

Task Training Guide

STS Reference Number/Title:	20.1.3.1., Ultra Low Volume (ULV) Fog Generator 20.1.3.2., Back Pack 20.1.3.3., Fan ULV 20.1.3.4., Compressed Air Sprayer
Training References:	<ul style="list-style-type: none">• AFI 32-1053, Pest Management Program• AFI 32-7002, Environmental Information Management System• AFI 32-7006, Environmental Program In Foreign Countries• AFH 10-222, Volume 4, Environmental Guide for Contingency Operations• AFPMB TIM 24, Armed Forces Pest Management Board, Contingency Pest Management Pocket Guide, Fifth Edition, 2 Sep 98.• Military Pest Management Handbook.
Prerequisites:	<ul style="list-style-type: none">• Possess as a minimum, a 3E433 AFSC.
Equipment/Tools Required:	<ul style="list-style-type: none">• DVEP TIM 24• Military Pest Management Handbook.
Learning Objective:	<ul style="list-style-type: none">• The trainee should know the proper dispersal equipment to properly apply the identified pesticide.• The trainee should know how to select the correct pesticides for the area of deployment.
Samples of Behavior:	<ul style="list-style-type: none">• Trainee should be able to use the proper dispersal equipment.• Trainee should be able to select the equipment needed for contingency operations.

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ULTRA LOW VOLUME (ULV) FOG GENERATOR

Background: The need to select the proper equipment is one of the major concerns in any pest management program. There is a variety of equipment to choose from but you must select the equipment best designed to effectively apply those products. The two categories of equipment used in deployment areas are portable and nonportable.

Portable Equipment.

- **Backpack mist-dust blower.** The backpack mist-dust blower is very light weight and one person can carry it, Figure 1. It's used to apply liquids, dusts, or granules. Typical models hold 5.3 gallons of liquid or about 15 pounds of dry pesticide. It's very useful for applying pesticides to small outdoor areas and areas unreachable with a larger mist-dust blower. It is used to apply residuals to trees, shrubs, grasses, and for controlling vegetation pests, ants, earwigs, and ectoparasites such as fleas and lice may also be controlled. Other uses include larviciding programs for mosquitoes, flies, and beetles.



Figure 1, Typical Backpack Dust Blowers.

- **Hand-carried ULV battery-operated fan.** This lightweight hand-held ULV device, Figure 2 is useful for adulticiding small outdoor areas and some indoor areas. It enables very quiet operation in small operational areas.



Figure 2, Hand-Carried ULV Battery-Operated Fan.

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- **Compressed air sprayer.** This item is the mainstay of most pest management operations. It typically has a capacity of one to three gallons, Figure 3. Use compressed air sprayers to apply residual sprays in and around buildings. Spot treating outdoor areas such as water-filled containers, garbage pits and latrines is another use. It is also useful for applying repellents to troops' clothing in the field and for emergency decontamination of chemical agents. In operation, fill the tank to two-thirds to three-fourths of its' total capacity. Maintain an air pressure of 30-50 pounds per square inch (psi) to ensure a sufficient flow and spray pattern.



Figure 3, Compressed Air Sprayer.

These sprayers have a variety of nozzles that allow for different spray patterns according to the work being done. The four commonly used nozzle types most frequently used are:

- The *solid stream nozzle* is designed to apply a fine stream of insecticide in cracks and crevices for cockroach and ant control.
- The *flat spray nozzle* produces a fan-shaped pattern. Use it to apply residual sprays along floors and walls, Figure 4.
- The *hollow-cone nozzle* forms a cone-shaped spray pattern. This is useful for applying mosquito larvicides and conducting other outdoor operation, Figure 5.
- The *solid-cone nozzle* forms a round pattern more or less evenly over the entire pattern. They're mostly used for spraying low foliage or turf areas.



Figure 4, Flat spray nozzle



Figure 5, Hollow-cone nozzle

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Non-portable equipment.

- **Ultra Low Volume (ULV) fog generator.** This is a relatively large generator due to the size of its 11-horsepower engine. It is usually mounted on a small vehicle such as a 1/2 ton pickup truck, Figure 6. The insecticide tank holds 13 gallons of technical-grade or ULV-formulated pesticide. In some areas, car spotting or damage to automobile finishes may occur because of the corrosive properties of some of the insecticides. This generally results only when large droplets (greater than 100 microns, the diameter of a human hair) are present in the spray. Therefore, pest managers must ensure that the unit is always properly calibrated.



Figure 6, Typical Skid Mounted Fogger

To perform the task, follow these steps:

Steps in selecting dispersal equipment:

Step 1: Identify the Pest

- Contact Command Entomologist at forward location
- Contact pest management shop NCOIC at forward locations (if possible)
- Order DVEP from the Armed Forces Pest Management Board
 - Check web page

Step 2: Determine Control Method

- Determine mission requirement
 - Permanent vs. temporary control
- Determine control level requirements
 - Heavy infestation vs. prevention
-

Step 3: Determine Pesticide Requirements

- Identify Pest
- Work with Command Entomologist at the forward location

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- Work with the pest management shop NCOIC at forward location (if possible)
- Control method will drive the choices of pesticide requirements

Step 4: After pesticides are chosen.

- The proper dispersal equipment is determined to apply the pesticide correctly.
- The following should be considered to determine the proper dispersal equipment:
 - Deploy equipment according to pest cited in the DVEPS and pesticides utilized.
 - Size of area can determine the size of equipment to deploy, i.e. if the encampment covers several acres or miles a compressed air sprayer will not be adequate alone.
 - If the aircraft has limited cargo space, then several smaller pieces of equipment can be utilized instead of the larger equipment.
- Deploy equipment, which can accomplish several tasks using a single piece of equipment in place of one task equipment.
- Ensure that essential replacement parts are packed and deployed with equipment, i.e. spray nozzles, O-rings, screens, gaskets etc.)

SAFETY:

**BEFORE SHIPPING EQUIPMENT, PURGE EQUIPMENT OF ALL PESTICIDES.
CHECK EQUIPMENT ENSURING IT IS IN GOOD OPERATING CONDITION.
REMOVE ALL FUELS (GASOLINE OR DIESEL) FROM EQUIPMENT.**

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**Review Questions
for
Ultra Low Volume (ULV) Fog Generator**

Question	Answer
1. Which of the following is not a piece of portable equipment?	a. Hand-carried ULV battery-operated fan. b. ULV fog generator. c. Backpack mist-dust blower. d. Compressed air sprayer.
2. Which spray nozzle applies a fine stream for crack and crevice treatments?	a. Flat spray b. Solid stream c. Hollow-cone d. Solid-cone
3. Which spray nozzle applies a cone-shaped pattern?	a. Solid stream b. Flat spray c. Hollow-cone d. Solid-cone
4. Which spray nozzle applies an even round pattern?	a. Solid stream b. Hollow-cone c. Flat spray d. Solid cone
5. What determines your control method?	a. Mission and level of control b. Pesticide on hand c. Availability of equipment d. All of the above.
6. What determines the choice of pesticides?	a. Pesticides on hand b. Control method c. Availability of equipment d. DVEP

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ULTRA LOW VOLUME (ULV) FOG GENERATOR

Performance Checklist		
Step	Yes	No
1. Did the trainee research DVEPs for pest identification?		
2. Did the trainee choose the correct pesticide for pest identified?		
3. Did the trainee determine the proper dispersal equipment to pesticide?		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

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ENVIRONMENTAL



PREPARE ASSETS

MODULE 20

AFQTP UNIT 1

SELECT PERSONAL PROTECTIVE EQUIPMENT (20.1.4.)

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SELECT PERSONAL PROTECTIVE EQUIPMENT

Task Training Guide

STS Reference Number/Title:	20.1.4., Select Personal Protective Equipment
Training References:	<ul style="list-style-type: none">• AFI 32-1053, Pest Management Program• AFI 32-7002, Environmental Information Management System• AFI 32-7006, Environmental Program In Foreign Countries• AFH 10-222, Volume 4, Environmental Guide for Contingency Operations• AFPMB TIM 24, Armed Forces Pest Management Board, Contingency Pest Management Pocket Guide, Fifth Edition, 2 Sep 98.• Military Pest Management Handbook.
Prerequisites:	<ul style="list-style-type: none">• Possess as a minimum, a 3E433 AFSC
Equipment/Tools Required:	<ul style="list-style-type: none">• TIM 24• TIM 14 PPE for PMP
Learning Objective:	<ul style="list-style-type: none">• Trainee should know what items of Personal Protective Equipment are required for Pest control.
Samples of Behavior:	<ul style="list-style-type: none">• Trainee should be able to explain what items of Personal Protective Equipment are required for Pest control.

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SELECT PERSONAL PROTECTIVE EQUIPMENT

This AFQTP task is covered in AFQTP Modules 12.3. and 12.4.. If these have already been accomplished, continue to the next QTP task.

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**Review Questions
for
Select Personal Protective Equipment**

Refer to AFQTP Modules 12.3. and 12.4.. for review questions.

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SELECT PERSONAL PROTECTIVE EQUIPMENT

Performance Checklist

Refer to AFQTP Modules 12.3. and 12.4.. for Performance Checklist.

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

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ENVIRONMENTAL



CONTROL ASSESTS

MODULE 20

AFQTP UNIT 2

INVENTORIES (20.2.3.1.)

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INVENTORIES

Task Training Guide

STS Reference Number/Title:	20.2.3.1., Inventories
Training References:	<ul style="list-style-type: none"> • AFI 32-1053, Pest Management Program • AFI 32-7002, Environmental Information Management System • AFI 32-7006, Environmental Program In Foreign Countries • AFH 10-222, Volume 4, Environmental Guide for Contingency Operations • AFPMB TIM 24, Armed Forces Pest Management Board, Contingency Pest Management Pocket Guide, Fifth Edition, 2 Sep 98. • Military Pest Management Handbook.
Prerequisites:	<ul style="list-style-type: none"> • Possess as a minimum a, 3E433 AFSC
Equipment/Tools Required:	<ul style="list-style-type: none"> • DD Form 1532-1 “Pest Management Maintenance Record”. • Lap top computer if available.
Learning Objective:	<ul style="list-style-type: none"> • The trainee should learn the basic steps required for keeping and maintaining inventory records.
Samples of Behavior:	<ul style="list-style-type: none"> • Trainee should be able to establish and maintain inventory records. • Trainer should design scenarios to enhance the trainee’s knowledge of establishing inventory records.
Notes:	
<ul style="list-style-type: none"> • To successfully complete this element, follow the steps outlined in this procedure--no exceptions. 	

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INVENTORIES

Background: As a pest controller, it is essential to control the assets that are used in the field. These assets include pesticides, equipment, and PPE. The best method of accomplishing this task is to maintain strict inventories and accountability of all assets while in the field. In this section, inventory of assets will be discussed including the steps to follow to achieve this goal.

To perform the task, follow these steps:

Step 1: Accomplishing Assets Inventory. It is imperative to have a complete inventory of all assets **before** leaving.

Step 2: The following steps are used to accomplish an inventory of assets during a deployment:

- Upon arrival be sure to re-inventory the assets. This accounts for any items lost in shipping.
- A complete inventory of all pesticides and equipment should be accomplished at least monthly or as needed.
- Before leaving the deployment area, inventory all pesticides and equipment to ensure all unused assets are reshipped to the original site.

Step 3: Upon arrival at original site, perform a final inventory to account for any assets lost in shipment.

NOTE:

Create an inventory sheet including product name and quantity. A good method for completing the monthly inventory is to use the DD Form 1532-1, Pest Management Maintenance Report. A copy of the inventory should be given to the Bio-Environmental Engineer and the Fire Department quarterly. If in an area where chemicals and equipment are being continually used by more than one person, inventories will be more frequent.

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**Review Questions
for
Inventories**

Question	Answer
1. The best method of accomplishing control of assets in the field is by?	a. Strict inventories and accountability b. Inventories c. Accountability d. None of the above
2. What two things are included in an inventory sheet?	a. Ingredients b. Product name c. Quantity d. Both b and c
3. In the field, monthly reports are maintained by using what form?	a. DD Form 1348-1 b. DD Form 1532-1 c. AF Form 2005 d. DD Form 1348-6
4. How often should a copy of the inventory be given to the Bio-Environmental Engineers and the Fire Department?	a. Weekly b. Monthly c. Quarterly d. Yearly

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INVENTORIES

Performance Checklist		
Step	Yes	No
1. Did the trainee Inventory Assets before leaving?		
2. Did the trainee Inventory Assets upon arrival?		
3. Did the trainee accomplish an inventory at least monthly?		
4. Did the trainee perform an inventory before departure?		
5. Did the trainee re-inventoried assets upon arrival at home station?		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

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ENVIRONMENTAL



CONTROL ASSESTS

MODULE 20

AFQTP UNIT 2

SECURITY (20.2.3.2.)

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SECURITY

Task Training Guide

STS Reference Number/Title:	20.2.3.2., Security
Training References:	<ul style="list-style-type: none"> • AFI 32-1053, Pest Management Program • AFI 32-7002, Environmental Information Management System • AFI 32-7006, Environmental Program In Foreign Countries • AFH 10-222, Volume 4, Environmental Guide for Contingency Operations • AFPMB TIM 24, Armed Forces Pest Management Board, Contingency Pest Management Pocket Guide, Fifth Edition, 2 Sep 98. • Military Pest Management Handbook. • TIM 21- Pesticide Disposal Guide for Pest Control Shops
Prerequisites:	<ul style="list-style-type: none"> • Possess as a minimum, a 3E433
Equipment/Tools Required:	<ul style="list-style-type: none"> • TIM-21, Pesticide Disposal Procedures for Pest Control Shops.
Learning Objective:	<ul style="list-style-type: none"> • Trainee should know how to secure and be accountability for deployed pest control assets.
Samples of Behavior:	<ul style="list-style-type: none"> • Trainer should design scenarios to enhance the trainee's knowledge for asset security.
Notes:	
<ul style="list-style-type: none"> • To successfully complete this element, follow the steps outlined in this procedure--no exceptions. 	

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

SECURITY

Background: In deployed areas, the need to secure your assets will be one of your primary concerns. If possible, a portable containment building should be deployed with you or use expedient methods to construct a temporary building to house your assets. The area should be isolated, above the flood plain and provisions made to prevent unauthorized entry. The building and surrounding area should be monitored to prevent unnecessary contamination or loss of vital pest control assets. Remember the pest control assets deployed with you are your responsibility.

To perform the task, follow these steps:

Step 1: Obtain a storage area for pesticides.

- The ideal storage container would be a lockable building with good ventilation. Examples of other storage areas could be storage lockers, temper tents, conex boxes, pick-up trucks with shells
- The building should be marked with applicable warning signs and padlocked.
- If possible, make sure building has adequate ventilation, especially in a hot climate.
- Building and storage shelves should be made of metal if possible.
- Once container has been utilized for chemical storage, the container should always be used for chemical storage.

Step 2: Secure facility.

- Keep building locked at all times and control the keys to ensure that only certified individuals handle the pesticides.

HINT:

The environmental technician is responsible for all chemicals shipped to the deployment area. Any misuse or mishap concerning pesticides is the responsibility of the environmental personnel.

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

**Review Questions
for
Security**

Question	Answer
1. Which of the following is not a prerequisite for a pest building site?	a. Isolated area b. Above flood plain c. Beside dining facility d. Prevent unauthorized entry
2. The chemical storage facility does not need to be ventilated?	a. True b. False
3. Which of the following is not a possible chemical storage facility?	a. Conex box b. Storage locker c. Refrigerated food locker d. Temper tent
4. Chemical storage shelves should be made of wood.	a. True b. False

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

SECURITY

Performance Checklist		
Step	Yes	No
1. Did the trainee acquired the proper storage container?		
2. Did the trainee implemented a security and monitoring plan?		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

ENVIRONMENTAL



CONDUCT OPERATIONS

MODULE 20

AFQTP UNIT 3

DISEASE VECTORS (20.3.2.1.)

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

DISEASE VECTORS

Task Training Guide

STS Reference Number/Title:	20.3.2.1., Disease Vectors
Training References:	<ul style="list-style-type: none"> • AFI 32-1053, Pest Management Program • AFI 32-7002, Environmental Information Management System • AFI 32-7006, Environmental Program In Foreign Countries • AFH 10-222, Volume 4, Environmental Guide for Contingency Operations • AFPMB TIM 24, Armed Forces Pest Management Board, Contingency Pest Management Pocket Guide, Fifth Edition, 2 Sep 98. • Military Pest Management Handbook.
Prerequisites:	<ul style="list-style-type: none"> • Possess as a minimum, a 3E433 AFSC.
Equipment/Tools Required:	<ul style="list-style-type: none"> • Personal Protective Equipment (PPE). • Topographical maps. • Disease Vector Ecology Profiles (DVEPS). • Survey equipment. • Identification keys, and control equipment.
Learning Objective:	<ul style="list-style-type: none"> • The trainee should know the basic steps required in performing field disease vector surveys and implementing control procedures.
Samples of Behavior:	<ul style="list-style-type: none"> • Trainee should be more competent and self-assured in performing field surveys. • Trainee should be capable of identifying disease vectors.
Notes:	
<ul style="list-style-type: none"> • To successfully complete this element, follow the steps outlined in this lesson and the Military Pest Management Handbook Chapter 7. • Trainer should provide trainee with inspection equipment outlined in this lesson. • Trainer should construct scenarios for varies types of disease vectors for local and deployed areas. 	

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

DISEASE VECTORS

Background: Since the organization of the first US military forces, disease vector have hindered or devastated our military operations. . The most advantageous means of fighting these pests is through knowledge, preparation, and implementation of surveys and proper control techniques.

- **Mosquitoes.**

There are several medically important disease vectors such as mosquitoes, flies, fleas, ticks, lice, and mites. The most important disease vector pest is the mosquito that transmits yellow fever, malaria, dengue, and encephalitis. These diseases reduce our operability by causing death and illness. Preparing our deployable forces and implementing preventative measures reduces our exposure to these diseases. Key to force protection is proper sanitation and correctly using government issued repellents. This lesson will help expand your understanding about surveying and controlling disease vectors.

To perform the task, follow these steps:

Step 1: Collect Information for deployment.

- Disease Vector Ecology Profiles (DVEPS), Figure 1.
- Topographical maps (if available), Figure 2.

NOTE:

Topographical maps depict low lying areas such as swamps, marshes, lakes, small ponds and creeks.

Step 2: Collect survey equipment.

- Light traps.
- Dippers.
- Ovitrap.
- Black boxes.

Step 3: Setup survey equipment in suspected locations.

- Setup light traps in dark areas close to breeding areas-never close to light sources.
- Never place light traps under pine trees.
- Carbon dioxide (dry ice) enhances mosquito collection.
- When dipping for mosquito larvae:
 - Skim the water for Anopheles mosquitoes
 - Dip the water for Culex and other species of mosquitoes.
- When Aedes Aegypti and Aedes albopictus are suspected, setup ovitrap.
 - These insects are not attracted to light traps.

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

Step 4: Collect specimens.

- Identify mosquitoes with the help of mosquito keys.

Note: Although you may be charged with mosquito identification, this duty primarily lies with medical Military Public Health field.

Step 5: After identification, select proper Integrated Pest Management (IPM) controls.

- IPM techniques include draining or back filling back-water pools.
- Reducing vegetation used as breeding grounds for larvae.
- Cleaning drainage ditches.

Step 6: Apply IPM control measures to encompass fogging and larviciding to reduce disease vectors.

Step 7: Continue surveys to ascertain the benefit of the control measures utilized.

NOTE:

If in an area where mosquitoes are difficult to control, aerial spraying may be justified.

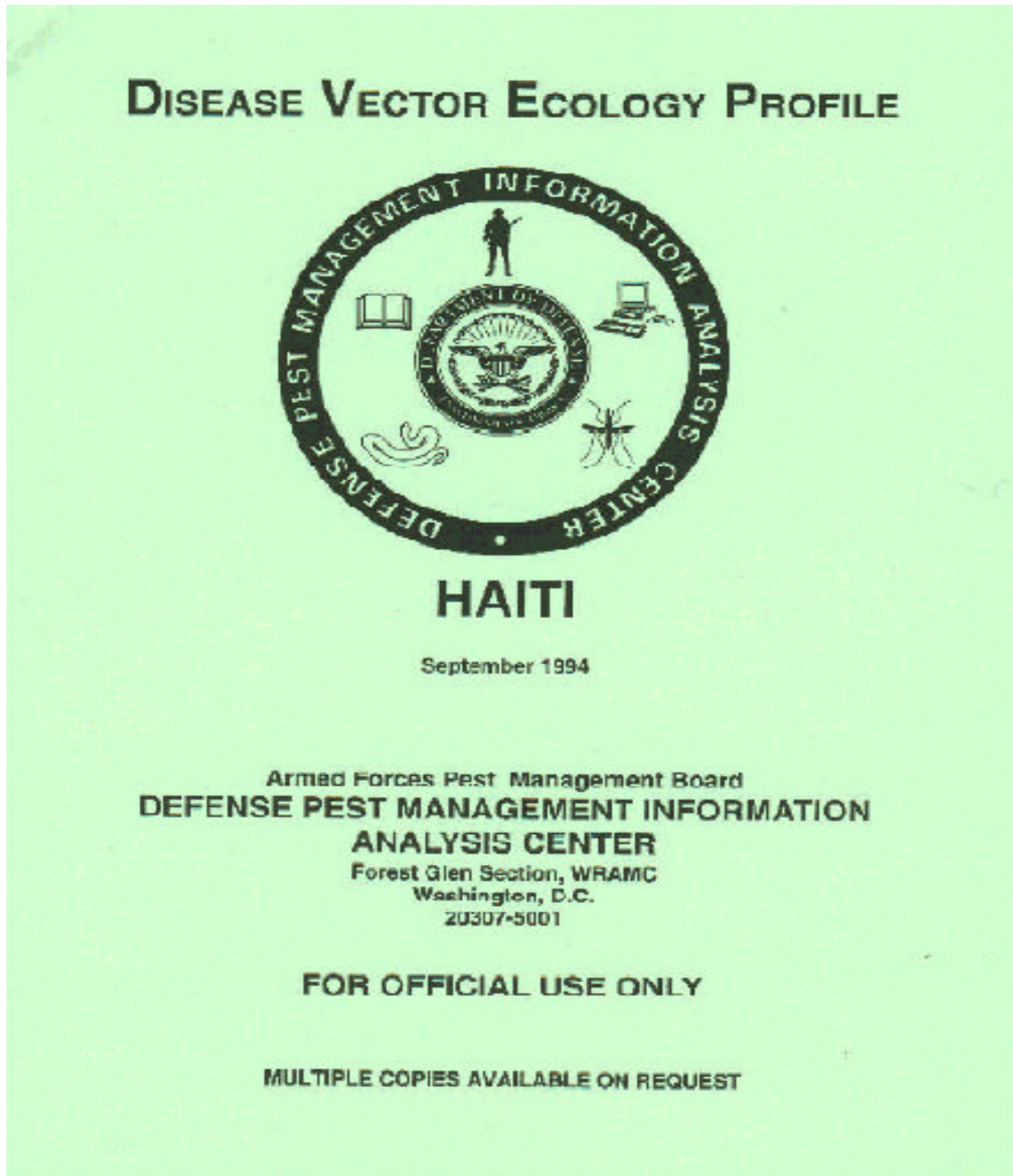


Figure 1, Disease Vector Ecology Profiles (DVEPS) for Haiti.

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.



Figure 2, Typical Topographical Map.

- **Flies.**

Flies are important to us because they spread diseases, destroy agricultural crop, and annoy personnel. Flies are both indoor and outdoor pests and breed mainly in animal excrement and garbage. They spread typhoid fever, diarrhea, dysentery, and cholera. Of the many flies, the housefly is the most common, as well as the most dangerous, insect closely associated with humans. The following steps will explain how to perform field surveys and controls for flies. Note however, the best control for all fly species is proper sanitation.

To perform the task, follow these steps:

Step 1: Collect DVEP.

Step 2: Collect survey equipment.

- Fly traps.
- Fly grills.

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

Step 3: Setup survey equipment in suspected locations.

Step 4: Collect specimens and identify flies with the fly pictorial keys.

Step 5: After identification.

- Select proper Integrated Pest Management (IPM) controls.

Step 6: Apply IPM control measures.

- Sanitation is the major priority in fly control.
 - All garbage should be buried or removed from deployment area.
 - All human excretions should be buried or burned.
- Use screening to reduce indoor fly populations
- Fly baits.
- Aerosols.
- Light traps.
- Sticky strips (note: these are messy and careful consideration should be used before employing in dining facilities, however; they are effective.)

NOTE:

In recent deployments, it was found that light traps were the best source of control for flies. The traps work by attracting flies to the US light and trapping them to a glue-board at the bottom of the trap. Glue boards should be checked at least daily, more often in heavily infested areas.

Step 7: Continue surveys to ensure the benefit of the control measures utilized.

SAFETY:

WHEN USING THE HAND-HELD ULV SPRAYER, USE A FULL FACE RESPIRATOR, COVERALLS, GLOVES, AND HARD HAT.

- **Fleas.**

There are five types of common fleas, the oriental rat flea, dog flea, cat flea, human flea, and the northern rat flea. The oriental rat flea is the most important because they carry Bubonic Plague and Marine Typhus. Fleas differ by host preferences, vector ability, and degree of association with people. One must know the species in order to judge the possible disease significance and to plan suitable control methods. In this lesson, you will learn to perform surveys and control techniques for field deployments. The following are steps involved in surveying and controlling oriental rat fleas.

To perform the task, follow these steps:

Step 1: Secure DVEP

Step 2: Collect the survey equipment.

- Rodent cages.
- Snap traps.

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

- Swabbing tools. The swabbing tool can be made from a stick and piece of flannel. Cut a piece of flannel and tie it to the stick.
- Collection pan.
- . *If the DVEP's indicate heavy rodent activity in the area, a microscope should be packed.*

NOTE:

The only time fleas are really important in a contingency operation is if there is a plague epidemic in the area. *A microscope will be needed for this process*

Step 3: Survey area for rodents and rodent burrows.

- To swab a rodent burrow, just push the stick into it and move the flannel around. The fleas will stick to the flannel and can be captured into a pan for identification.

Step 4: Trap rodents and swab rodent burrows.

- Use live traps for flea surveys, fleas leave cold dead bodies

Step 5: Collect fleas from survey procedures and identify them with the assistance of a flea key.

Note: Although you may be charged with flea identification, this duty primarily lies with medical Military Public Health field.

Step 6: If oriental rat fleas are found, control measures must be taken.

- Dust the rodent burrows to control the fleas and control rodents by trapping or poisoning.

NOTE:

The fleas must be controlled first. If the rodents are controlled first then the fleas may leave the burrows and attack humans.

Step 7: Continue to survey to assess the benefit of controls performed.

- **Ticks.**
Ticks are annoying pests and vector many diseases including Lyme disease, tick-borne typhus (spotted fever), tularemia, relapsing fever, tick-borne encephalitis, and hemorrhagic fever. Tick bites are irritating and if removed forcibly cause sores, infection, and blood poisoning.

The contingency survey and control techniques are listed below.

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

Step 1: Obtain a DVEP for the deployed area.

Step 2: Select an area suspected of tick infestation.

Step 3: Perform a tick drag survey. To perform this survey the following items are needed:

- Two sticks about four foot long
- A piece of white cloth approximately 4 foot square
- A piece of rope approximately 4 to 5 feet long
- Attach the cloth to sticks one at the top and one at the bottom.
- Tie the rope to one of the sticks and proceed to drag the material through the suspected area.

Step 4: If ticks are present perform control measures.

- Mow vegetation
- Spray the area with a residual spray.

Step 5: Continue to survey and assess control results.

- **Mites.**

Mites are very small arachnids with an unsegmented body and are distributed worldwide. Their habitats range from plant galls, rubbish, soil, to fresh and sea water. Mites are rarely seen by the naked eye. They are important to contingency operations because they carry mange, scabies, and scrub typhus. Surveys conducted for mites vary with habitat. The contingency surveys and management procedures for mites are listed below.

To perform the task, follow these steps:

Step 1: Obtain DVEP for deployed area.

Step 2: Select an area suspected of mite infestation.

Step 3: Place 12 inch squares of white paper or paper plates on the ground for one to five minutes.

NOTE:

Always apply a repellent before starting the task.

Step 4: Once mites are detected, start your management controls.

- Mow vegetation
- Residual spraying.

NOTE:

Ensure deployed forces use their individual protective measures, especially repellents.

Step 5: Survey periodically and apply control measures when needed.

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

- **Lice.**

Lice are most common in times of stress, such as war, famine or other disasters when people can't or don't bathe or wash clothing regularly. The sucking lice are the most important medically. Severe infestations may lead to scratching, secondary infections and scarred pigmented skin conditions known as pediculosis. Lice transmit pathogens causing human disease. There are three types of lice; body, head, and crab lice. The body louse is associated with epidemic typhus and relapsing fever.

To perform the task, follow these steps:

Step 1: Obtain DVEP for deployed area.

Step 2: Surveys are performed when lice are detected.

Step 3: Once detected, the infected individual's clothing and bedding is inspected.

Step 4: Apply delousing and disinfecting control measures.

NOTE:

Qualified medical personnel conduct these surveys. Inspect all individuals who share quarters with the infected individual. Special attention should be made to the seams of clothing. Laundering clothing is a disinfecting control. Applying an insecticidal powder is a delousing control.

Step 5: Repeat lice surveys and controls when directed.

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

Review Questions for Disease Vectors

Question	Answer
1. What is key to force protection from disease vectors?	a. Availability of medical personnel b. Effective pesticides c. Proper sanitation and use of repellents d. Knowledge of disease vectors
2. What is the most important disease vector?	a. Fly b. Mosquito c. Flea d. Mite
3. Always place light traps for mosquitoes under pine trees.	a. True b. False
4. What disease vector do we employ aerial spraying against?	a. Lice b. Tick c. Fly d. Mosquito
5. Flies are both indoor and outdoor pests.	a. True b. False
6. The major priority in fly control is _____?	a. Screening. b. Fly traps c. Fly baits d. Sanitation
7. The most important flea for contingency operations is the _____?	a. Oriental rat flea b. Dog flea c. Cat flea d. Human flea
8. Who is primarily responsible for identifying disease vectors during deployment?	a. Pest managers b. Bioenvironmental Engineering c. Military Public Health d. Command Entomologist

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Review Questions for Disease Vectors

Question	Answer
9. Why are mites difficult to identify?	<ul style="list-style-type: none"> a. They closely resemble lice b. They are very small c. They have very soft bodies d. There are too many species to catalog
10. Which disease vector do you use a white paper or plate glass to survey for?	<ul style="list-style-type: none"> a. Ticks b. Fleas c. Mites d. Flies
11. Which of the following is not a habitat for mites?	<ul style="list-style-type: none"> a. Fresh and sea water b. Rubbish and soil c. Body hair d. Plant galls
12. Mowing vegetation and residual spraying are controls for mites?	<ul style="list-style-type: none"> a. True b. False
13. Surveys for lice are conducted by _____?	<ul style="list-style-type: none"> a. Environmental personnel b. Public health c. Qualified medical personnel d. Any one
14. Which is a delousing control?	<ul style="list-style-type: none"> a. Applying insecticidal powder b. Laundering clothes c. Applying antibacterial ointment d. All the above

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DISEASE VECTORS

Performance Checklist		
Step	Yes	No
Mosquito		
1. Did trainee obtain a DVEP?		
2. Did trainee collect proper survey equipment?		
3. Did the trainee setup equipment correctly?		
4. Did trainee perform a survey?		
5. Did trainee identify pests?		
6. Did trainee select proper IPM control techniques?		
7. Did trainee select proper PPE to perform control techniques?		
Flies		
1. Did trainee obtain a DVEP?		
2. Did trainee collect proper survey equipment?		
3. Did the trainee setup equipment correctly?		
4. Did trainee perform a survey?		
5. Did trainee identify pests?		
6. Did trainee select proper IPM control techniques?		
7. Did trainee select proper PPE to perform control techniques?		
Fleas		
1. Did trainee obtain a DVEP?		
2. Did trainee collect proper survey equipment?		
3. Did the trainee setup equipment correctly?		
4. Did trainee perform a survey?		
5. Did trainee identify pests?		
6. Did trainee select proper IPM control techniques?		
7. Did trainee select proper PPE to perform control techniques?		
Ticks		
1. Did trainee obtain a DVEP?		
2. Did trainee collect proper survey equipment?		
3. Did the trainee setup equipment correctly?		
4. Did trainee perform a survey?		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

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ENVIRONMENTAL



CONDUCT OPERATIONS

MODULE 20

AFQTP UNIT 3

VERTEBRATE PESTS (20.3.2.2.)

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

VERTEBRATE PESTS

Task Training Guide

STS Reference Number/Title:	20.3.2.2., Vertebrate Pests
Training References:	<ul style="list-style-type: none"> • AFI 32-1053, Pest Management Program • AFI 32-7002, Environmental Information Management System • AFI 32-7006, Environmental Program In Foreign Countries • AFH 10-222, Volume 4, Environmental Guide for Contingency Operations • AFPMB TIM 24, Armed Forces Pest Management Board, Contingency Pest Management Pocket Guide, Fifth Edition, 2 Sep 98. • Military Pest Management Handbook.
Prerequisites:	<ul style="list-style-type: none"> • Possess as a minimum, a 3E433 AFSC
Equipment/Tools Required:	<ul style="list-style-type: none"> • Equipment for surveying rodents and snakes.
Learning Objective:	<ul style="list-style-type: none"> • Trainee should be competent in rodent and snake surveys and controls.
Samples of Behavior:	<ul style="list-style-type: none"> • Trainee should be able to assess and solve disease vector problems.
Notes:	
<ul style="list-style-type: none"> • To successfully complete this element follow the steps outlined in this section exactly—no exceptions. • Trainer should aid trainee with scenarios to enhance training. 	

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

VERTEBRATE PESTS

Background: In contingency operations, vertebrate pests can be as much of a problem as insects and disease vectors. Vertebrate pests include domestic rodents, field rodents, and snakes. Rodents are important medically because they carry a number of diseases. These diseases are plague, murine typhus, leptospirosis, rickettsialpox, and rat-bite fever. Rodents not only carry diseases, but also destroy much needed food and equipment. Snakes are also vertebrate pests that will be discussed in this section. Although snakes do not carry any known diseases, the poisonous snakes are medically important because of their bite. Non-poisonous snakes are very beneficial because of the amount of rodents they consume. In this lesson, survey and control techniques for rodents and snakes will be outlined.

To perform the task, follow these steps:

Domestic Rodents.

Step 1: Secure DVEP

Step 2: Survey the suspected rodent infested area.

- Droppings.
- Runways.
- Gnawings.
- Burrows.
- Nests.

NOTE:

The most frequent sign of rodent activity is droppings. Rat droppings are 1/4 to 3/4 inches long by 1/16 inch in diameter. Mouse droppings are 1/8 inch long thus much smaller than rat droppings. It is easy to confuse mouse droppings and American Roach droppings. Both droppings are relatively the same size. The mouse droppings are pointed on each end where the roach droppings are blunt.

Step 3: Once rodent activity has been discovered, implement IPM control measures.

- Baits. When using rodent baits, attempt to remove all food products from area to enhance bait capabilities. The use of liquid baits can accelerate your baiting program, especially for rats. Remove and replace any bait that has been defecated on or is wet.
- Glueboards. To enhance the effects of glueboards, use peanut butter or bacon on them. This attracts the rodent quicker.
- Traps
- Rodent proofing (where possible) can be applied.

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

Step 4: Continue to survey and apply control techniques as needed.

- **Field Rodents**

To perform the task, follow these steps:

The following steps outline the procedures for surveying and controlling field rodents.

Step 1: Survey suspected areas.

- Look for burrows
- Look for runways
- Look for tracks.

Step 2: Initiate control measures to eliminate the rodent problems.

NOTE:

Field mice can be controlled the same way house mice and domestic rodents are controlled with baits, traps, etc. In a Contingency operation, the main problem with field rodents, excluding field mice, are the ectoparasites they bring into the camp. If the problem is not major merely live trapping and relocating may be sufficient.

Step 3: Continue to survey and apply control measures as needed.

- **Snakes.**

To perform the task, follow these steps:

Step 1: Survey the area and attempt to identify the snake that's causing the problem by using DVEPs or area snake key.

NOTE:

Snakes can hide very well and sometimes are hard to find inside buildings. A procedure that will sometimes help in locating a snake is to place a damp cloth on the floor and a dry one on top of the wet cloth. When the snake finds the moisture it will crawl under it.

Step 2: Remove the snake from the encampment by whatever means necessary.

NOTE:

If the snake is not poisonous it is beneficial to keep it around to assist in rodent control. If in an area where poisonous snakes are abundant the following are some ideas to reduce the snake population in the encampment. Reduce rodent populations to cut-off food supply. Remove harborage such as rock piles, wood piles, tall grass, and brush piles. Snake proof tents and buildings as much as possible by closing openings. Moth balls or Naphthalene act as a repellent to snakes, thus placing them in and around buildings help keep snakes out.

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

**Review Questions
for
Vertebrate Pests**

Question	Answer
1. Which of the following is <u>not</u> a sign of rodent activity?	a. Runways b. Nests c. Gnawings d. Skins
2. What is the most frequent sign of rodent activity?	a. Droppings b. Runways c. Burrows d. Gnawings
3. There is no need to remove food sources when baiting rodents.	a. True b. False
4. What is the main problem of field rodents on a contingency?	a. Borrows b. Ectoparasites c. Runways d. Food consumption
5. Which of the following is <u>not</u> a harborage for snakes?	a. Brush piles b. Sand piles c. Wood piles d. Rock piles

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VERTEBRATE PESTS

Performance Checklist		
Step	Yes	No
Domestic Rodents 1. Does trainee know signs of rodent infestation? 2. Did trainee identify correct IPM measures for rodent control?		
Field Rodents 1. Does trainee know signs of field rodent activity? 2. Did trainee identify correct control measures for field rodents?		
Snakes 1. Does trainee understand survey techniques for snakes? 2. Does trainee understand the control techniques for snakes?		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

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ENVIRONMENTAL



CONDUCT OPERATIONS

MODULE 20

AFQTP UNIT 3

VEGETATION (20.3.2.3.)

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

VEGETATION

Task Training Guide

STS Reference Number/Title:	20.3.2.3., Vegetation
Training References:	<ul style="list-style-type: none"> • AFI 32-1053, Pest Management Program • AFI 32-7002, Environmental Information Management System • AFI 32-7006, Environmental Program In Foreign Countries • AFH 10-222, Volume 4, Environmental Guide for Contingency Operations • AFPMB TIM 24, Armed Forces Pest Management Board, Contingency Pest Management Pocket Guide, Fifth Edition, 2 Sep 98. • Military Pest Management Handbook.
Prerequisites:	<ul style="list-style-type: none"> • Possess as a minimum, a 3E433
Equipment/Tools Required:	<ul style="list-style-type: none"> • Lawn-mower • Weed eater • Axe • Hatchet or machete • Backpack dust/mist blower • Compressed air sprayer. • Tool box and extra spare parts.
Learning Objective:	<ul style="list-style-type: none"> • Trainee should know how to control vegetation and operate equipment. •
Samples of Behavior:	<ul style="list-style-type: none"> • Trainee should be able to select and operate vegetation control equipment.
Notes:	
<ul style="list-style-type: none"> • To successfully complete this element, follow the steps outlined in this procedure--no exceptions. • Trainer will design scenarios to enhance the trainee's knowledge for vegetation control. 	

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

VEGETATION

Background: Vegetation control in deployment areas may be a major problem. Thick vegetation is a good breeding area for disease vector pests. Keeping the vegetation around the contingency area controlled could be of primary concern, depending on contingency location. The location of deployed forces will also dictate equipment and herbicides requirements. If herbicides are taken, ensure that the chemicals can be applied at the forward location.

To perform the task, follow these steps:

Step 1: Obtain DVEP for deployment area.

Step 2: Select equipment needed for deployment.

- Chain saw.
- Ax.
- Hatchet or machete.
- Weed eater.
- Lawn mower.
- Compressed air sprayer for herbicide application.
- Backpack mist/dust blower.

NOTE:

Remember to include owner's manual and spare parts. Always wear your PPE when operating equipment or herbicide application.

Step 3: Make sure equipment is operable.

Step 4: Learn to operate equipment before deploying.

Step 5: Re-inspect equipment at the deployment area.

Step 6: Perform another operations test.

Step 7: Execute vegetation controls for area.

Step 8: Repeat vegetation controls when needed.

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

**Review Questions
for
Vegetation**

Question	Answer
1. Thick vegetation is a good breeding ground for disease vectors.	a. True b. False
2. What literature should be included for deployed equipment?	a. Shop manuals b. Owner's manual c. TIM 24 d. AFI 32-1075
3. No PPE is needed of vegetation control?	a. True b. False c.
4. What must you ensure first before shipping herbicides to a forward location?	a. Plant resistance b. Host nation requirements c. Non target pests d. Herbicide formulation

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

VEGETATION

Performance Checklist		
Step	Yes	No
1. Did the trainee acquire the DVEP?		
2. Did the trainee select equipment?		
3. Did the trainee perform operations test?		
4. Did trainee learn to operate equipment?		
5. Did the trainee perform equipment inspection?		
6. Did the trainee perform second operations test?		
7. Did the trainee implement controls?		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

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ENVIRONMENTAL



CONDUCT OPERATIONS

MODULE 20

AFQTP UNIT 3

PESTICIDE USAGE (20.3.3.1.)

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PESTICIDE USAGE

Task Training Guide

STS Reference Number/Title:	20.3.3.1
Training References:	<ul style="list-style-type: none"> • AFI 32-1053, Pest Management Program • AFI 32-7002, Environmental Information Management System • AFI 32-7006, Environmental Program In Foreign Countries • AFH 10-222, Volume 4, Environmental Guide for Contingency Operations • AFPMB TIM 24, Armed Forces Pest Management Board, Contingency Pest Management Pocket Guide, Fifth Edition, 2 Sep 98. • Military Pest Management Handbook.
Prerequisites:	<ul style="list-style-type: none"> • Possess as a minimum a 3E433 AFSC
Equipment/Tools Required:	<ul style="list-style-type: none"> • Pesticide labels
Learning Objective:	<ul style="list-style-type: none"> • Trainee should learn how to keep records of the pesticides used while on contingency operations.
Samples of Behavior:	<ul style="list-style-type: none"> • Trainee should be able to keep records of the pesticides used while on contingency operations.
Notes:	
<ul style="list-style-type: none"> • To successfully complete this element, follow the steps outlined in the lesson--no exception. • Trainer should develop scenarios for the trainee to practice with 	

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PESTICIDE USAGE

Background: Just as records of pesticide usage is kept at the home station, the same holds true in the field. These records of pesticide usage are normally on the computer at the home station. In the field, the WIMS computer system is rarely found. Records and reports are hand written. It is important to keep records and reports for the Environmental Protection Agency (EPA), Major Command, and local governments if applicable. This lesson will explain how to keep pesticide usage records in the field, in detail.

The following steps outline the procedures for pesticide usage record keeping during a contingency.

- **Step 1: Obtain DD Form 1532-1**
This form should be part of the supplies brought on the deployment.
- **Step 2: Each pesticide application should be annotated on the DD Form 1532-1.**
A DD Form 1532-1 should be maintained for each building and area in the encampment. These forms should be kept in some order, preferably by building number. This makes the forms easier to locate whenever needed.
- **Step 3: If deployment is more than 90 days.**
Quarterly reports are accomplished using DD Form 1532. When reporting on the DD Form 1532 the quantities must be reported in pounds of active ingredient. Thus, all quantities from the 1532-1 must be changed from gallons of finished spray to pounds of active ingredients

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Review Questions for Pesticide Usage

Question	Answer
1. Records of pesticide use are not kept in the field?	a. True b. False
2. Records are kept for what agencies?	a. Environmental Protection Agency b. Major Command c. Local governments d. All of the above
3. On what form are daily pesticide application kept?	a. AF Form 1532-1 b. AF Form 1532 c. DD Form 1532-1 d. DD Form 1532
4. Quantities reported on DD Form 1532 are reported in pounds of active ingredient.	a. True b. False
5. If deployed more than 90 days what type of reports must be kept?	a. Monthly b. Quarterly c. Weekly d. None of the above
6. The preferred way of record keeping for the DD Form 1532-1 is by building or tent number?	a. True b. False

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PESTICIDE USAGE

Performance Checklist		
Step	Yes	No
1. Did trainee obtain DD Form 1532-1?		
2. Did trainee correctly fill out DD Form 1532-1?		
3. Is trainee familiar with DD Form 1532-1?		

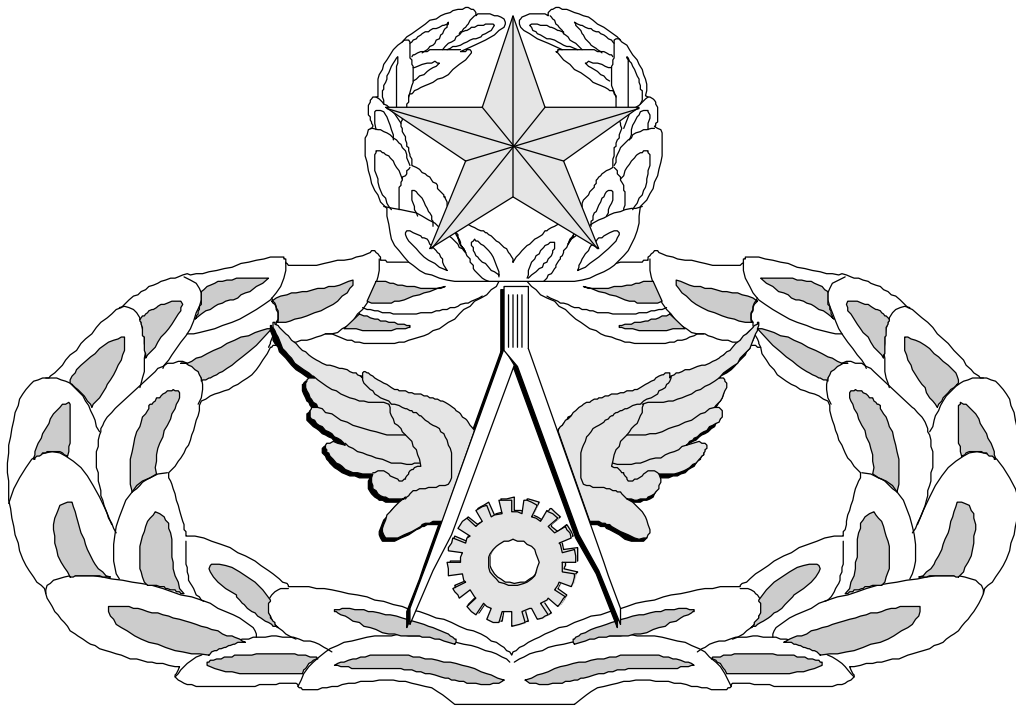
FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

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Air Force Civil Engineer

QUALIFICATION TRAINING PACKAGE (QTP)

REVIEW ANSWER KEY



For
ENVIRONMENTAL

(3E4X3)

MODULE 20

AFS SPECIFIC CONTINGENCY RESPONSIBILITIES

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Key-1

SELECT PESTICIDES

(3E4X3-20.1.2.)

Question	Answer
1. Contingency Pest Management provides _____.	b. Pest control services.
2. When should you obtain the Disease Vector Ecology Profiles?	c. Before deploying
3. Who should you contact to find out about pests at the forward location?	b. Command Entomologist and Pest Shop NCOIC
4. What is the first step to determining your pesticide requirements?	c. Identify the pest
5. What time frame should you base your initial pesticide requirements? _____.	b. 7 – 10 days
6. Which pesticide formulations are safest to transport??	a. Powders and granular

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ULTRA LOW VOLUME (ULV) FOG GENERATOR**(3E4X3-20.1.3.1.)****BACK PACK****(3E4X3-20.1.3.2.)****FAN ULV****(3E4X3-20.1.3.3.)****COMPRESSED AIR SPRAYER****(3E4X3-20.1.3.4.)**

Question	Answer
1. Which of the following is not a piece of portable equipment?	b. ULV fog generator.
2. Which spray nozzle applies a fine stream for crack and crevice treatments?	b. Solid stream
3. Which spray nozzle applies a cone-shaped pattern?	c. Hollow-cone
4. Which spray nozzle applies an even round pattern?	d. Solid-cone
5. What determines your control method?	a. Mission and level of control
6. What determines the choice of pesticides?	b. Control method

SELECT PERSONAL PROTECTIVE EQUIPMENT**(3E4X3-20.1.4.)**

Refer to AFQTP Modules 12.3. and 12.4., for answers.

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INVENTORIES

(3E4X3-20.2.3.1.)

Question	Answer
1. The best method of accomplishing control of assets in the field is by?	a. Strict inventories and accountability
2. What two things are included in an inventory sheet?	d. Both b and c
3. In the field, monthly reports are maintained by using what form?	b. DD Form 1532-1
4. How often should a copy of the inventory be given to the Bio-Environmental Engineers and the Fire Department?	c. Quarterly

SECURITY

(3E4X3-20.2.3.2.)

Question	Answer
1. Which of the following is not a prerequisite for a pest building site?	c. Beside dining facility
2. The chemical storage facility does not need to be ventilated?	b. False
3. Which of the following is not a possible chemical storage facility?	c. Refrigerated food locker
4. Chemical storage shelves should be made of wood.	b. False

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DISEASE VECTORS

(3E4X3-20.3.2.1.)

Question	Answer
1. What is key to force protection from disease vectors?	c. Proper sanitation and use of repellents.
2. Probably the most important disease vector pest is the _____?	b. Mosquito.
3. Always place light traps for mosquitoes under pine trees.	b. False.
4. What disease vector do we employ aerial spraying against?	d. Mosquito
5. Flies are both indoor and outdoor pests.	a. True.
6. The major priority in fly control is _____?	d. Sanitation.
7. The most important flea for contingency operations is the _____?	a. Oriental rat flea.
8. Fleas can affect a contingency operation when _____?	c. Military Public Health.
9. Why are mites difficult to identify?	b. They are very small
10. Which disease vector do you use a white paper or plate glass to survey for?	c. Mites
11. Which of the following is not a habitat for mites?	c. Body hair
12. Mowing vegetation and residual spraying are controls for mites?	a. True
13. Surveys for lice are conducted by _____?	b. Public Health
14. Which is a delousing control?	a. Applying insecticidal powder

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VERTEBRATE PESTS

(3E4X3-20.3.2.2.)

Question	Answer
1. Which of the following is <u>not</u> a sign of rodent activity?	d. Skins
2. What is the most frequent sign of rodent activity?	a. Droppings
3. There is no need to remove food sources when baiting rodents.	b. False
4. What is the main problem of field rodents on a contingency?	d. Food consumption
5. Which of the following is <u>not</u> a harborage for snakes?	b. Sand piles

VEGETATION

(3E4X3-20.3.2.3.)

Question	Answer
1. Thick vegetation is a good breeding ground for disease vectors.	a. True
2. What literature should be included for deployed equipment?	b. Owner's manual.
3. No PPE is needed of vegetation control?	b. False.
4. What must you ensure first before shipping herbicides to a forward location?	b. Host nation requirements

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PESTICIDE USAGE

(3E4X3-20.3.3.1.)

Question	Answer
1. Records of pesticide use are not kept in the field?	b. False
2. Records are kept for what agencies?	d. All of the above
3. On what form are daily pesticide application kept?	a. DD Form 1532-1
4. Quantities reported on DD Form 1532 are reported in pounds of active ingredient.	a. True
5. If deployed more than 90 days what type of reports must be kept?	b. Quarterly
6. The preferred way of record keeping for the DD Form 1532-1 is by building or tent number?	a. True

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